

Imperial Solar Energy Center South

Appendix J

Project Design Features

Prepared by CSolar

| | Project Design Feature | Desired Effect on Environment |
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| AQ | 1 Construction Equipment equipped with EPA Tier 2 or better engine designation. | Reduce Nox impacts from construction. |
| AQ | 2 Stabilize all disturbed areas with water, tarps, dust suppressants, or soil binders. | Reduce Nox impacts from construction. |
| AQ | 3 Stabilize unpaved roads within the project site with water, tarps, dust suppressants, or soil binders. | Reduce Nox impacts from construction. |
| AQ | 4 Bulk Materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of Bulk Material. In addition, the cargo compartment of all Haul Trucks is to be cleaned and/or washed at delivery site after removal of Bulk Material. | Reduce Nox impacts from construction. |
| AQ | 5 Clean all Track-Out or Carry-Out at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an Urban area. | Reduce Nox impacts from construction. |
| AQ | 6 Stabilize movement of bulk material handling or transfer prior to handling or at points of transfer with application of sufficient water, chemical stabilizers or by sheltering or enclosing the operation and transfer line. | Reduce Nox impacts from construction. |
| AQ | 7 Use alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment | Reduce Nox impacts from construction. |
| AQ | 8 Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum | Reduce Nox impacts from construction. |
| AQ | 9 Replace fossil fueled equipment with electrically driven equivalents where a suitable electric equivalent exists (provided they are not run via a portable generator set). | Reduce Nox impacts from construction. |
| AQ | 10 Construction equipment operating onsite will be equipped with two to four degree engine timing retard or precombustion chamber engines. | Reduce Nox impacts from construction. |
| AQ | 11 Construction equipment used for the project will utilize EPA Tier 2 or better engine technology. | Reduce Nox impacts from construction. |
| AQ | 12 All vehicles on site will be well maintained to prevent leaks and minimize emissions. | Reduce Nox impacts from construction. |
| AQ | 13 Water exposed soil with adequate frequency for continued moist soil. | Reduce Nox impacts from construction. |
| AQ | 14 Replace ground cover in disturbed areas as quickly as possible. | Reduce Nox impacts from construction. |
| AQ | 15 Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. | Reduce Nox impacts from construction. |
| AQ | 16 The contractor will utilize a trip reduction plan to achieve a 1.5 AVR for construction employees. | Reduce Nox impacts from construction. |
| AQ | 17 A food truck will deliver food to the site to reduce vehicle trips travelling offsite to obtain food. | Reduce Nox impacts from construction. |
| AQ | 18 The project will comply with ICAPCD Rule 800 (Fugitive Dust Requirement for Control of Fine Particulate Matter [PM10]). A Dust Control Plan for construction activities will be filed with the ICAPCD | Minimize Impacts to air quality |
| AQ | 19 To minimize mud and dust from being transported onto paved roadway surfaces, pave, gravel, use rattle plates or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface. | Minimize Impacts to air quality |
| AR | 1 Minimize paving and ground disturbing activities thus retaining agricultural soil characteristics. | Minimize impacts to agricultural lands |
| BIO | 1 Noxious weed management is integral to the design of the project. The applicant will provide a noxious weed control plan to the County of Imperial Agricultural Commissioner prior to construction. | The plan should reduce impacts to biological resources. |
| BIO | 2 The project will complete preconstruction clearance surveys for burrowing owl within 30 days prior to construction. If active burrows are present within the project footprint, the following design features will be implemented. Passive relocation will only be done in the non-breeding season. This includes covering or excavating all burrows and installing one-way doors into occupied burrows. This will allow any animals inside to leave the burrow, but will exclude any animals from re-entering the burrow. The burrows should then be excavated and filled in to prevent their reuse. The destruction of the active burrows on-site requires construction of new burrows at a mitigation ratio of 1:1 at least 50 meters from the impacted area and will be constructed as part of the above-described relocation efforts. | Minimize/avoid impacts to burrowing owl. |
| BIO | 3 Speed limits along all transmission access roads and within the solar facility should not exceed 15 miles per hour. | Minimize/avoid impacts to sensitive species. |

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| BIO | 4 | Annual formal worker education training will be established for all employees and any subcontractors at the ISEC to provide instruction on sensitive species identification; measures to avoid contact, disturbance, and injury; and reporting procedures in the case of dead and/or injured wildlife species. | Minimize/avoid impacts to sensitive species. |
| BIO | 5 | A <i>Raven Control Plan</i> will be prepared and implemented that details specific measures for storage and disposal of all litter and trash produced by the solar facility and its employees. This plan is designed to discourage scavengers that may also prey on wildlife in the vicinity. | Minimize/avoid impacts to sensitive species. |
| BIO | 6 | A <i>Wildlife Mortality Reporting Program</i> will be prepared and implemented to identify and report any dead or injured animals observed by personnel conducting O&M activities within the solar facility and along the transmission line. An appropriate reporting format for dead or injured wildlife observed within the solar facility and along the transmission line will be developed in coordination with the BLM. In addition, reporting of any dead or injured avian species found along the transmission line will follow the existing USFWS Bird Fatality/Injury Reporting Program (https://birdreport.fws.gov/). | Minimize/avoid impacts to sensitive species. |
| BIO | 7 | All project work areas shall be clearly flagged or similarly marked at the outer boundaries to define the limit of work activities. All construction and restoration workers shall restrict their activities and vehicles to areas that have been flagged to eliminate adverse impact to the FTHL and its habitat. All workers shall be instructed that their activities are restricted to flagged and cleared areas. | Minimize/avoid impacts to sensitive species. |
| BIO | 8 | Within the Flat Tailed Horned Lizard management area, the area of disturbance of vegetation and soils will be the minimum required for the project. Clearing of vegetation and grading will be minimized. Wherever possible, rather than clearing vegetation and grading for tower/road sites, equipment and vehicles shall use existing surfaces or previously disturbed areas. Where clearing is necessary, surface soils shall be stockpiled | Minimize/avoid impacts to sensitive species. |
| BIO | 9 | A biological monitor will be present in each area of active surface disturbance throughout the work day from initial clearing through habitat restoration, except where the project is completely fenced and cleared of FTHLs by a biologist. The biological monitors shall meet the requirements set in Appendix 6 of the Rangewide Management Strategy. | Minimize/avoid impacts to sensitive species. |
| BIO | 10 | No wildlife, including rattlesnakes, may be harmed except to protect life and limb. Firearms shall be prohibited in all project areas except for those used by security personnel. | Minimize/avoid impacts to sensitive species. |
| BIO | 11 | Feeding of wildlife is not allowed. | Minimize/avoid impacts to sensitive species. |
| BIO | 12 | Project personnel are not allowed to bring pets to any project area in order to minimize harassment or killing of wildlife and to prevent the introduction of destructive animal diseases to native wildlife populations. | Minimize/avoid impacts to sensitive species. |
| BIO | 13 | Plant or wildlife species may not be collected for pets or any other reason. | Minimize/avoid impacts to sensitive species. |
| BIO | 14 | All steep-walled trenches or excavations used during construction shall be inspected twice daily (early morning and evening) to protect against wildlife entrapment. If wildlife is located in the trench or excavation, the on-site biological resource monitor shall be called immediately to remove them if they cannot escape unimpeded. The on-site biological resource monitor would make the required contacts with the USFWS and CDFG resource personnel and obtain verbal approval prior to removing any entrapped wildlife. If the biological resource monitor is not qualified to remove the entrapped wildlife, a recognized wildlife rescue agency (such as Project Wildlife) may be employed to remove the wildlife and transport them safely to other suitable habitats. | Minimize/avoid impacts to sensitive species. |
| BIO | 15 | Structures shall be constructed to conform to “Suggested Practices for Raptor Protection on Power Lines” (Raptor Research Foundation, Inc. 1981), to minimize impacts to raptors. | Minimize/avoid impacts to sensitive species. |
| BIO | 16 | Construction holes left open over night shall be covered. Covers shall be secured in place nightly, prior to workers leaving the site, and shall be strong enough to prevent livestock or wildlife from falling through and into a hole. Holes and/or trenches shall be inspected prior to filling to ensure absence of mammals and reptiles. | Minimize/avoid impacts to sensitive species. |
| BIO | 17 | Disturbed soils shall be re-vegetated with an appropriate seed mix that does not contain invasive, non-native plant species. | Minimize/avoid impacts to sensitive species. |

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| BIO | 18 | If construction occurs between February 1 and July 15, a qualified biologist will conduct a pre-construction clearance survey for nesting raptors in suitable nesting habitat (e.g., tall trees or transmission towers) that occurs within 500 feet of the survey area. If any active raptor nest is located, the nest area will be flagged, and a 500-foot buffer zone delineated, flagged, or otherwise marked. No work activity will occur within this buffer area, until a qualified biologist determines that the fledglings are independent of the nest. | Minimize/avoid impacts to sensitive species. |
| BIO | 19 | Littering is not allowed. project personnel would not deposit or leave any food or waste in the project area, and no biodegradable or non-biodegradable debris would remain in the right-of-way for on the project site ollowing completion of construction. | Minimize/avoid impacts to sensitive species. |
| BIO | 20 | Monitoring shall be provided by a qualified biologist approved by the BLM and the Wildlife Agencies to ensure that all impacts occur within designated limits | Minimize/avoid impacts to sensitive species. |
| BIO | 21 | Provide restoration for affected jurisdictional areas. Impacts to areas under the jurisdiction of the ACOE, Regional Water Boards, State Water Board, and CDFG shall be avoided to the extent feasible. Where avoidance of jurisdictional areas is not feasible (including for emergency repairs), the applicant shall provide the necessary mitigation required as part of wetland permitting by creation/restoration/preservation of suitable jurisdictional or equivalent habitat along with adequate buffers to protect the function and values of jurisdictional area mitigation. The location(s) of the mitigation would be determined in consultation with the agencies. | Minimize/avoid impacts to jurisdictional waters. |
| CR | 1 | Co-locate towers/poles adjacent to existing or proposed facilities. | Reduce aesthetic, biological, and cultural impacts. |
| CR | 2 | Use existing access roads where practical. | Reduce aesthetic, biological, and cultural impacts. |
| | 3 | If NRHP- and/or CRHR-eligible resources, as determined by the BLM and SHPO, cannot be protected from direct impacts of the Proposed Project, data-recovery investigations shall be conducted by the Applicant to reduce adverse effects to the characteristics of each property that contribute to its NRHP- and/or CRHR-eligibility. | |
| CR | 4 | Avoid and protect cultural resource sites where practical. Where avoidance is not possible, work with agencies and tribal members to relocate artifacts. | Minimize/Avoid impacts from transmission and solar field development. |
| CR | 5 | Fencing will be installed around sensitive resource sites to prevent impact during construction. | Minimize/Avoid impacts to cultural resources from transmission and solar field development. |
| CR | 6 | An Archeologist will be onsite monitoring earthwork activities. | Minimize/avoid impacts to cultural resources from transmission and solar field development. |
| CR | 7 | Implement full-time archaeological monitoring by a professional archaeologist during ground-disturbing activities at all cultural resource Environmentally Sensitive Areas (ESAs). | Minimize/avoid impacts to cultural resources from transmission and solar field development. |
| CR | 8 | All construction personnel shall be trained regarding the recognition of possible buried cultural remains and protection of all cultural resources, including prehistoric and historic resources during construction, prior to the initiation of construction or ground-disturbing activities. | Minimize/avoid impacts to cultural resources from transmission and solar field development. |
| CR | 9 | All locations of known Native American human remains shall be avoided through project design and shall be protected by designation as ESAs. If the approved project route will affect sites known to contain human remains that cannot be avoided in their entirety during construction, the Applicant shall contact the California Native American Heritage Commission (NAHC). The NAHC will identify the Most Likely Descendant (MLD), within 48 hours, who will specify the preferred course of treatment in the event that additional human remains are discovered. | Minimize/avoid impacts to cultural resources from transmission and solar field development. |
| CR | 10 | The Applicant shall provide assistance to the BLM, as requested by the BLM, to complete required government-to-government consultation with interested Native American tribes and individuals (Executive Memorandum of April 29, 1994 and Section 106 of the National Historic Preservation Act) and other Traditional Groups to assess the impact of the approved project on Traditional Cultural Properties or other resources of Native American concern, such as sacred sites and landscapes, or areas of traditional plant gathering for food, medicine, basket weaving, or ceremonial uses. | Minimize/avoid impacts to cultural resources from transmission and solar field development. |

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| CR | 11 | Prior to construction, the Applicant shall conduct and submit to Imperial County, BLM, and other involved land-managing agencies for approval an inventory of significant paleontological resources within the affected area based on field surveys of areas identified as marginal through high or undetermined paleontological sensitivity potential. | Minimize/avoid impacts to cultural resources from transmission and solar field development. |
| GEO | 1 | Structure placement in areas of high shrink/swell potential will be avoided where possible. | Minimize impacts to geology and soils |
| GEO | 2 | Structures will be placed in geologically stable areas, avoiding fault lines, brittle surface rock and bedrock, etc. | Minimize impacts to geology and soils |
| GEO | 3 | Project construction activities shall be designed and implemented to avoid or minimize new disturbance, erosion on manufactured slopes, and off-site degradation from accelerated sedimentation. Maintenance of cut and fill slopes created by project construction activities would consist primarily of erosion repair. Where re-vegetation is necessary to improve the success of erosion control, planting or seeding with native seed mix would be done on slopes. | Minimize impacts to geology and soils |
| HS | 1 | Removing and properly disposing of all trash and debris within the project site will occur prior to start of construction. | Minimize Health, Safety, and hazardous materials impacts |
| HS | 2 | An Unexploded Ordinance (UXO) investigation of known and potential areas used by the military along the ROW shall be undertaken by a trained contractor. If UXO are found, they shall be removed by trained personnel. | Minimize/avoid impacts to Health and Safety |
| HS | 3 | Only personnel trained in refueling vehicles would be allowed to perform this operation. All refueling operation shall be in designated areas or preformed by assigned vehicles. | Minimize/avoid impacts to Health and Safety |
| | | Any gates onsite shall have a Knox lock and be rapidly accessible by Border Patrol and the Imperial County Fire Department. | Minimize/avoid impacts to Health and Safety |
| PSU | 1 | Underground Service Alert would be notified a minimum of 48 hours in advance of earth-disturbing activities in order to identify any buried utility lines. | Minimize impacts to Public Services |
| VI | 2 | Reduce construction night lighting impacts. CSOLAR shall design and install all lighting at construction and storage yards and staging areas and fly yards such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the project facilities, vicinity, and nighttime sky is minimized. | Maintain aesthetic appeal of project. |
| VI | 3 | Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light sources is shielded to prevent light trespass outside the project boundary | Maintain aesthetic appeal of project. |
| VI | 4 | All lighting shall be of minimum necessary brightness consistent with worker safety | Maintain aesthetic appeal of project. |
| VI | 5 | High illumination areas not occupied on a continuous basis shall have switches or motion detectors to light the area only when occupied. | Maintain aesthetic appeal of project. |
| WQ | 1 | The project is designed to manage a 100 year storm event so there is no increase in runoff rate or increase in volume to the downstream properties for the 100 year storm. | Minimize/avoid impacts to hydrology and water quality. |
| WQ | 2 | To the extent feasible, structures shall be placed so as to avoid sensitive features such as watercourses, or to allow conductors to clearly span the features, within limits of safety and standard structure design. | Minimize impacts to Water Quality |
| WQ | 3 | A Storm Water Pollution Prevention Plan (SWPPP) will be prepared and implemented. | Minimize impacts to Water Quality |
| WQ | 4 | Storm Water Best Management Practices (BMPs) for construction will be implemented per the requirements of the project's SWPPP. | Minimize impacts to Water Quality |
| WQ | 5 | Silt fencing, straw mulch, straw bale check dams would be installed as appropriate to contain sediment within construction work areas and staging areas. Where soils and slopes exhibit high erosion potential, erosion control blankets, matting, and other fabrics and/or other erosion control measures. | Minimize impacts to Water Quality |
| WQ | 6 | The potential for increased sediment loading will be minimized by limiting road improvements to those necessary for project construction, operation and maintenance. | Minimize impacts to Water Quality |
| WQ | 7 | Upland pull sites will be selected to minimize impacts to surface waters, riparian areas, wetlands and floodplains. | Minimize impacts to Water Quality |
| WQ | 8 | Structures will not be placed in streambeds or drainage channels to the extent feasible. | Minimize impacts to Water Quality |
| WQ | 9 | Secure any required General Permit for Storm Water Discharges Associated with Construction Activity (NPDES permit) authorization from the State Water Resources Control Board and/or the RWQCB to conduct construction-related activities to build the project and establish and implement a SWPPP during construction to minimize hydrologic impacts | Minimize impacts to Water Quality |